VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The paragraph beginning on page 1, line 12, has been amended as follows:

Figure 1 is a sectional view of a linear motor in accordance with ~~a~~ conventional art, and Figure 2 illustrates an arrangement of permanent magnets of the linear motor of Figure 1 in accordance with the conventional art.

The paragraph beginning on page 1, line 19, has been amended as follows:

The stator 1 includes an outer case 1a, a first armature coil part 1b installed on an inner side of the outer case 1a, and a second armature coil part 1c installed at one side of a support member 1d.

The paragraph beginning on page 1, line 23, has been amended as follows:

The rotor 2 includes a shaft 2b and permanent magnets 2a arranged in a ~~checked~~ checkered pattern at an outer circumferential surface of the shaft 2b.

The paragraph beginning on page 2, line 2, has been amended as follows:

The first armature coil part 1b is wound in an annular ~~type~~ shape at the inner side of the stator 1, and the second armature coil part 1c is also wound in the same annular ~~type~~ shape as

that of the first armature coil part 1b at the inner side of the stator 1, but is arranged in a ~~checked~~ checkered pattern in a perpendicular direction to the first armature coil part 1b.

The paragraph beginning on page 2, line 9, has been amended as follows:

The first armature coil part 1b is linearly ~~moved~~ movable, while the second armature coil part 1c assembled in ~~the~~ a direction perpendicular to the first armature coil parts 1b is rotatably ~~moved~~ movable. And, the first armature coil part 1b and the second armature coil part 1c are formed of three-phase (U, V, W, U', V', W') coils.

The paragraph beginning on page 2, line 15, has been amended as follows:

However, in the case that the first and the second armature coil parts 1b and 1c adopt the three phases, in the conventional linear motor, the plurality of permanent magnets corresponding to the first armature coil part, that is, the linear movement portion, and the second armature coil part, that is, the rotation movement portion, are arranged and assembled in a ~~checked~~ checkered pattern on the outer circumferential surface of a single shaft. Thus, when the shaft is linearly moved, it is difficult to precisely control the shaft due to the permanent magnets in the ~~checked~~ checkered pattern. In addition, since

assembling the permanent magnets in the ~~checked~~ checkered pattern is very difficult, its operation efficiency is degraded.

The paragraph beginning on page 3, line 8, has been amended as follows:

Therefore, an object of the present invention is to provide a linear motor in which a plurality of permanent magnets arranged and assembled on the outer circumferential surface of a shaft are divided into a first permanent magnet part, a linear movement zone, and a second permanent magnet part, and a rotation movement zone, in a manner ~~of being~~ corresponded to a first armature coil part and a second armature coil part as divided into a rotation movement zone and a linear movement zone, to thereby precisely control linear movement thereof

The paragraph beginning on page 3, line 19, has been amended as follows:

To achieve these and other advantages and in accordance with the purpose of the present invention, as embodied and broadly described herein, there is provided a linear motor including: an outer case; a stator installed at the inner side the outer case and having a first and a second armature coil parts; ~~a~~ first, ~~to a~~ second and third shafts assembled in the inner side of the first and the second armature coil parts of the stator; a first permanent magnet part having a plurality of permanent magnets assembled in a ring-~~type~~shape at the outer

circumferential surface of the first shaft; and a second permanent magnet part having a plurality of permanent magnets assembled at ~~the~~ an outer circumferential surface of the third shaft.

The paragraph beginning on page 4, line 24, has been amended as follows:

Figure 1 is a sectional view of a linear motor in accordance with ~~a~~ conventional art;

The paragraph beginning on page 6, line 1, has been amended as follows:

Figure 3 is a sectional view of a linear motor in accordance with the present invention.~~,~~ Figure 4A is a perspective view of a stator of the linear motor of Figure 3 in accordance with the present invention.~~,~~ Figure 4B is a perspective view of a rotor of the linear motor of Figure 3 in accordance with the present invention.~~,~~ Figure 5A is a side-sectional view of the stator of the linear motor of Figure 3 in accordance with the present invention.~~,~~ and Figure 5B is a side-sectional view of the rotor of the linear motor of Figure 3 in accordance with the present invention.

The paragraph beginning on page 6, line 19, has been amended as follows:

The first armature coil part 12 and the second armature coil part 13 are formed in ~~a similar~~ an integral structure to

that of the armature coil parts of the conventional linear motor.

The paragraph beginning on page 6, line 23, has been amended as follows:

Namely, the first armature coil part 12 is disposed in ~~the~~ an annular ~~type~~ to fit the outer case 11, and the second armature coil part 13 is assembled in the outer case 11 in the perpendicular direction to the first armature coil part 12. A reference numeral 14 of Figure 3 denotes a support member.

The paragraph beginning on page 7, line 5, has been amended as follows:

With reference to Figures 3 and 4B, the rotor 20 includes ~~a~~ first, second and ~~through a~~ third shafts 21, 22 and 23 insertedly disposed in the outer case 11, a first permanent magnet 21a disposed in a ring ~~type~~ shape on the outer circumferential surface of the first shaft 21 and a second permanent magnet 23a disposed on the outer circumferential surface of the third shaft 23.

The paragraph beginning on page 7, line 15, has been amended as follows:

The reason why the rotor is sectioned ~~into~~ within the first, second and ~~through the~~ third shafts 21, 22 and 23 is to ~~indicate~~ provide a linear movement zone, a neutral zone, and a rotation movement zone.

The paragraph beginning on page 7, line 19, has been amended as follows:

As shown in Figures 4B and 5A, N pole, S pole, N pole and S pole of the first permanent magnet 21a are arranged in a ring ~~type~~ shape on the outer circumferential surface of the first shaft 21 in the horizontal direction in the linear movement zone.

The paragraph beginning on page 8, line 4, has been amended as follows:

There is formed ~~the~~ a neutral zone between the first permanent magnet 21a and the second permanent magnet 23a, having a predetermined interval therebetween. The neutral zone corresponds to the second shaft 22 as shown in Figure 4B.

The paragraph beginning on page 8, line 9, has been amended as follows:

As to the linear motor of the present invention constructed as described above, since the rotor 20 is formed to be coaxial with the first, second and ~~through the~~ third shafts 21, 22 and 23, its precision can be drastically improved compared with that of the conventional linear motor.

The paragraph beginning on page 8, line 15, has been amended as follows:

In other words, in a case of the conventional linear motor, the shaft for the linear movement zone and the shaft for the

rotation movement zone are junctioned for use, but comparatively, in a case of the linear motor of the present invention, the plurality of permanent magnets formed on the outer circumferential surface of the shaft are divided into the first permanent magnet 21a, the linear movement zone, and the second permanent magnet 23a, the rotation movement zone, and the first permanent magnet 21a is formed in a ring ~~type~~ shape to be assembled, so that controlling of the linear movement of the linear motor, which is moved rotatably and linearly, can be improved. In addition, the permanent magnet to be assembled in the rotation movement zone of the shaft can be attached later.

IN THE CLAIMS:

The claims have been amended as follows:

1. (amended) A linear motor comprising:

an outer case;

a stator installed at ~~the~~ an inner side the outer case and having a first and a second armature coil parts~~,~~, said the first armature coil part of the stator having an annual shape complementarily fittable within the outer case, and said the second armature coil part of the stator being assembled in the outer case in a perpendicular direction to the first armature coil part;

a rotor ~~includes~~ including a first, ~~to a~~ second and third shafts assembled to be coaxial with ~~in the inner side of~~ the first and the second armature coil parts of the stator;

a first permanent magnet part having a plurality of permanent magnets; and

a second permanent magnet part having a plurality of permanent magnets assembled on ~~the~~ an outer circumferential surface of the third shaft.

4. (amended) The linear motor according to claim 1, wherein the first, second and ~~to the~~ third shafts are provided with a neutral zone ~~(which corresponds to~~ on the second shaft ~~portion) therebetween, having~~ providing a predetermined interval between the first permanent magnet part assembled on the outer circumferential surface of the first shaft and the second permanent magnet part assembled on the outer circumferential surface of the ~~second~~ third shaft.

5. (amended) The linear motor according to claim 1, wherein the first permanent magnet part is arranged in a ring ~~type~~ on ~~the~~ an outer ~~circumfenential~~ circumferential surface of the first shaft.

6. (amended) The linear motor according to claim 1, wherein the second permanent magnet part is arranged on ~~the~~ an outer surface of the third shaft in ~~the~~ a vertical direction.

Claims 2 and 3 have been canceled.